IN THE CLAIMS

1. (previously presented) A method for predicting natural frequency responses, said method comprising the steps of:

providing at least one tube sub-system including a plurality of shrouded bellows components;

determining a stiffness multiplier within each of the shrouded bellows components using a regression technique based on dynamic stiffness test data;

using the determined stiffness multiplier in a model that applies a standard geometry element and a flexibility factor based upon the stiffness multiplier to predict a natural frequency response; and

determining locations for duct supports based on the natural frequency response.

2. (original) A method in accordance with Claim 1 further comprising the step of inputting dynamic system operating inputs into the model.

3. (original) A method in accordance with Claim 2 wherein said step of inputting dynamic system operating inputs further comprises the step of inputting at least an operating pressure and vibratory environment into the model.

4. (original) A method in accordance with Claim 2 further comprising the step of inputting geometry inputs including at least one of a bellows pitch and a mating tube diameter into the model.

5. (canceled)

6. (previously presented) A method in accordance with Claim 3 further comprising the step of determining the stiffness of the at least one tube sub-system as a function of the stiffness multiplier.

7. (previously presented) A modeling system for determining natural frequency response of shrouded bellows components, said system comprising a processor configured to:

determine a stiffness multiplier within the shrouded bellows components using a regression technique based on dynamic stiffness test data;

use the determined stiffness multiplier in a model that applies a standard geometry element and a flexibility factor based upon the stiffness multiplier to predict a natural frequency response of the bellows; and

determine a location of a duct support based on the natural frequency response.

8. (canceled)

9. (previously presented) A modeling system in accordance with Claim 7 wherein said model is configured to utilize shrouded bellows geometry inputs and dynamic operating condition inputs to determine the stiffness multiplier.

10. (previously presented) A modeling system in accordance with Claim 9 wherein the bellows geometry inputs include at least one of a tube sub-system diameter and a bellows pitch.

11. (previously presented) A modeling system in accordance with Claim 9 wherein the dynamic operating condition inputs include at least an operating pressure.

12. (previously presented) A modeling system in accordance with Claim 7 wherein the stiffness multiplier is adjustable such that a dynamic stiffness of the shrouded bellows is selectively variable.

13-19. (canceled)